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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/775,771	02/09/2004	David A. Worley	7784-000688	9373

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HARNESS DICKEY & PIERCE, PLC
P.O. BOX 828
BLOOMFIELD HILLS, MI 48303

EXAMINER	
TAYONG, HELENE E	
ART UNIT	**PAPER NUMBER**
2609	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	02/23/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/775,771	WORLEY ET AL.	
	Examiner	Art Unit	
	Helene Tayong	2609	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *09 February 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-25* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-25* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *09 February 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *09 February 2004*.

4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities: In paragraph [0018], page 5-6, "the transponded forward link **18** signal" should be replaced with "the transponded forward link **20** signal".

Appropriate correction is required.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1-3,5-7,9-13,15-17,22 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fleming, III et al.(US 6212360 B1) in view of Bethscheider et al. (US 6275678 B1).

Regarding claim 1;

4. As shown in figure 3, Fleming, III et al, discloses a method for adjusting the power in an uplink transmission from a hub earth-station to a satellite, comprising:

(a) using said first communications station (360) to receive said signal transmitted (210) from said second communications station (col. 4, lines 48-57);

(b) However, Fleming, III et al. does not disclose adding a quantity of noise to said signal received by said first communications station to produce a composite signal having a known operating point.

Bethscheider et al. in the same field of invention discloses in fig. 5, a pseudo noise signal PN(t) is generated by means of a pseudo noise signal generator (19). where, adding a quantity of noise to said signal received by said first communications station to produce a composite signal having a known operating point. (col. 7, lines 56-67 and col. 8, lines 1-5).

It would have been obvious to one of ordinary skill in the art at the time of the invention to use pseudo noise generator because these signals are generated comparatively easy (col. 9, lines 51-52).

The motivation to combine these would have been to improve the speed and efficiency of the system of Fleming III, et al. in determining the signal quality.

(c) Fleming III, et al. discloses monitoring a beacon signal (395) from said second communications station to determine a transmission loss affecting said signal as said signal is transmitted from said second communications station to said first communications station (col. 5, lines 23-27); and

(d) Fleming III, et al. discloses using said transmission loss, said quantity of noise and said composite signal to extrapolate a signal quality value for said signal transmitted by said second communications station (col.5, lines 21-26)

Regarding claim 2;

Fleming III et al. discloses using said first communications station to receive said signal comprises transmitting said signal from a satellite based transponder (30) to said first communications station (col. 4, lines 47-51).

Regarding claim 3;

Fleming III, et al. discloses using said first communications station(360) to receive said signal comprises using a terrestrial based communications station (earth stations) to receive said signal (col. 4, lines 47-51).

Regarding claim 5;

Fleming III, et al. discloses monitoring said beacon signal (395) comprises using a beacon receiver (325) to monitor said beacon signal to determine therefrom downlink losses of said signal for use in determining said signal quality value (col. 5, lines 23-27).

Regarding claim 6;

Fleming III, et al. discloses wherein an absolute value of said transmission loss is used in determining said signal quality value(col.9, lines 13-23);

Regarding claim 7;

(a) Fleming III, et al. discloses using said communications station to receive said information signal transmitted from said satellite based transponder (col. 4, lines 48-57);

(b) However, Fleming III et al. does not disclose adding a quantity of noise to said signal received by said first communications station to produce a composite signal having a known operating point.

Bethscheider et al. in the same field of invention discloses in fig. 5, a pseudo noise signal PN(t) is generated by means of a pseudo noise signal generator (19). where, adding a quantity of noise to said signal received by said first communications station to produce a composite signal having a known operating point. (col. 7, lines 56-67 and col. 8, lines 1-5).

It would have been obvious to one of ordinary skill in the art at the time of the invention to use pseudo noise generator because these signals are generated comparatively easy (col. 9, lines 51-52).

The motivation to combine these would have been to improve the speed and efficiency of the system of Fleming III et al. in determining the signal quality.

(c) Fleming III, et al. discloses determining a composite Eb/No value from said composite signal (col.9, lines 13-23);

(d) Fleming III, et al. discloses monitoring a beacon signal from a satellite associated with said satellite based transponder to determine a transmission loss affecting said information signal caused by atmospheric conditions, and generating a downlink loss value representative of said transmission loss (col. 5, lines 23-27); and

(e) Fleming III, et al. discloses using said downlink loss value, said quantity of noise and said composite signal to extrapolate a corrected Eb/No value, said corrected Eb/No value having an influence of an atmospheric loss removed therefrom (col.9, lines 13-23);

Regarding claim 9;

Fleming III, et al. discloses using said communications station comprises using a terrestrial based station (earth stations) to receive said information signal (col. 4, lines 47-57).

Regarding claim 10;

Fleming III, et al. discloses wherein extrapolating said corrected Eb/No value comprises using a computer(370) to determine said corrected Eb/No value (col.9, lines 13-23);

Regarding claim 11;

Fleming III, et al. discloses all of the subject matter discuss above except for teaching that (a) adding a known quantity of noise to a signal transmitted from said second communications station and received by said first communications station;

Bethscheider et al. in the same field of invention discloses in fig. 5, a pseudo noise signal PN(t) is generated by means of a pseudo noise signal generator (19). where, adding a quantity of noise to said signal received by said first communications station to produce a composite signal having a known operating point. (col. 7, lines 56-67 and col. 8, lines 1-5).

It would have been obvious to one of ordinary skill in the art at the time the invention to use pseudo noise generator because these signals are generated comparatively easy (col. 9, lines 51-52).

The motivation to combine these would have been to improve the speed and efficiency of the system of Wright et al. in determining the signal quality.

(b) Fleming III, et al. discloses determining an aggregate loss affecting an accuracy of a Eb/No measurement of said signal (col.5, lines 50-58); and

(c) Fleming III, et al. discloses using said known quantity of noise and said aggregate loss to determine a corrected Eb/No value for said signal (col.9, lines 13-23);

Regarding claim 12;

Fleming III, et al. discloses wherein determining an aggregate loss comprises determining an atmospheric induced loss affecting said signal (Col. 2, lines 20-29).

Regarding claim 13;

Fleming III, et al. discloses wherein determining an aggregate loss comprises determining a loss induced by receiving equipment of said first communications station (Col. 2, lines 16-19).

Regarding claim 15;

Fleming III, et al. discloses wherein determining said corrected Eb/No value comprises using a computer (370) to determine said corrected Eb/No value (col.9, lines 13-23);.

Regarding claim 16;

Fleming III, et al. discloses Wherein determining an aggregate loss comprises using a beacon receiver (325) to receive a beacon signal from said second communications station and determining therefrom a magnitude of atmospheric induced loss affecting said signal (col. 5, lines 23-27).

Regarding claim 22;

Fleming III, et al. discloses a separate attenuator (375) for each of said vertically and horizontally polarized signal components, for defining said known operating point (col. 4, lines 39-40).

Regarding claim 25;

Fleming III et al. discloses a demodulator (381,383,387) responsive to said known quantity of noise and said composite signal for generating said signal quality value (col. 6, lines 45-49).

5. Claim17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wright et al.(US US 272340 B1) in view of Bethscheider et al. (US 6275678 B1).

Regarding claim 17;

Fleming III, et al. discloses all of the subject matter discuss above except for teaching that (a) a subsystem for generating a known quantity of noise to be added to a signal transmitted from said second communications station;

Bethscheider et al. in the same field of invention discloses in fig. 5, a pseudo noise signal PN(t) is generated by means of a pseudo noise signal generator (19) where, adding a quantity of noise to said signal received by said first communications station to produce a composite signal having a known operating point. (col. 7, lines 56-67 and col. 8, lines 1-5).

It would have been obvious to one of ordinary skill in the art at the time of the invention to use pseudo noise generator because these signals are generated comparatively easy (col. 9, lines 51-52).

The motivation to combine these would have been to improve the speed and efficiency of the system of Wright et al. in determining the signal quality.

(b) Wright et al. discloses a combiner(52) for combining said known quantity of noise with said signal to produce a composite signal (col. 5, lines 35-41);

(c) Wright et al. discloses an attenuator for receiving said composite signal and defining a known operating point for said composite signal (col. 6, lines 26-35);

(d) Wright et al. discloses a receiver for monitoring a downlink loss affecting said signal (col. 6, lines 10-17); and

(e) Wright et al. discloses a computer (fig.1, 26) for using said quantity of noise, said composite signal, said downlink loss and said operating point to extrapolate a signal quality value, said signal quality value representing a measurement of a quality of said signal having said losses removed therefrom (col. 3, lines 53-65).

6. Claims 4,8,14,18,19 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fleming III, et al. in view of Nakamura (US 7130577 B2).

Regarding claim 4;

7. Fleming III, et al. discloses all of the subject matter disclosed above except for particularly discussing a system for generating noise between certain frequencies, wherein adding a quantity of noise comprises adding a quantity of noise having a frequency within a range of between about 950 MHz-1450 MHz.

Nakamura in the same field of endeavor, teaches a low Noise Block down-converter (LNA) incorporated in a receiver of an antenna for satellite signal

transmission/reception that produces a quantity of noise having a frequency within a range of between about 950 MHz-1450 MHz (col.1, lines 33-45).

At the time of the invention, it would have been obvious to one of ordinary skill in the art to utilize Nakamura 's LNA, to add a quantity of noise having frequency range between about 950 MHz-1450 MHz to measure the atmospheric attenuation with sufficient dynamic range.

The motivation to combine these would have been to improve the efficiency of Wright, et al method and system.

Regarding claim 8,14,and 18;

Same as in claim 4

Regarding claim 19;

Fleming III, et al. discloses all of the subject matter disclosed above except for particularly discussing a system wherein said subsystem for generating a known quantity of noise further comprises a local oscillator and mixer.

Nakamura in the same field of endeavor, teaches a system (fig 2) wherein said subsystem for generating a known quantity of noise further comprises a local oscillator (9,10) and mixer (11,12) (col. 5, lines 16-24).

At the time of the invention, it would have been obvious to one of ordinary skill in the art to utilize Nakamura 's LNA, to add a system wherein said subsystem for generating a known quantity of noise further comprises a local oscillator and mixer so that frequency conversion would not distort the input signal.

The motivation to combine these was to improve signal demodulation and produce frequencies which can be handled by an IF amplifier.

Regarding claim 20;

Fleming III, et al. discloses all of the subject matter disclosed above except for particularly discussing a system wherein said first communications station generates said signal as comprised of one of a horizontally polarized signal component and a vertically polarized signal component.

Nakamura in the same field of endeavor, teaches a system (fig 2) wherein said first communications station generates said signal as comprised of one of a horizontally polarized signal component and a vertically polarized signal component (col. 4, lines 62-65).

At the time of the invention, it would have been obvious to one of ordinary skill in the art to utilize Nakamura 's LNA, to add a system wherein said first communications station generates said signal as comprised of one of a horizontally polarized signal component and a vertically polarized signal component to focus the energy being emitted.

The motivation to combine these was to keep the signal constant and improve performance.

8. Claims 21 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fleming III, et al as applied to claim 20 and 23 above, and further in view of Marko (US 7136640 B2).

Regarding claim 21;

9. Fleming III et al. and Nakamura discloses all of the subject matter disclosed above except for particularly discussing a splitter for splitting said known quantity of noise such that a sub quantity of said noise is separately applied to each of said horizontally and vertically polarized signal components of said signal.

Marko in the same field of endeavor, teaches a satellite system (fig.7) that include a splitter (114) (col. 5, lines 36-40) to separate signal components based on their frequencies.

At the time of the invention, it would have been obvious to one of ordinary skill in the art to utilize a splitter to separate the signal to avoid interference.

The motivation to combine the splitter to the system of Wright et al. was to improve on quality and improve on interference.

Regarding claim 24;

Fleming III, et al. discloses all of the subject matter disclosed above except for particularly discussing wherein said second component is input to said combiner to be combined with said known quality of noise.

Marko in the same field of endeavor, teaches a system (fig 2) wherein said second component is input to said combiner to be combined with said known quality of noise (col. 6, lines 66-67 to col. 7, lines 1-3).

At the time of the invention, it would have been obvious to one of ordinary skill in the art to utilize a combiner to combine all signals to determine overall sum.

The motivation to combine the combiner (148) to the system of Fleming was to improve on the system performance.

10. Claim 23 is rejected under 35 U.S.C. 103(a) as being unpatentable over Fleming III, et al. in view of Marko (US 7136640 B2)

Regarding claim 23;

11. Fleming III, et al. discloses all of the subject matter disclosed above except for particularly discussing a signal splitter for dividing said signal into a first component and a second component, said component being input to said receiver.

Marko in the same field of endeavor, teaches a satellite system (fig.7) that include a splitter (114) (col. 5, lines 36-40) to separate signal components based on their frequencies.

The motivation to combine the splitter to the system of Wright et al. was to improve on quality and improve on interference.

Conclusion

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Fleming III, et al. (US 6212360 B1) discloses a method and apparatus for controlling earth-station transmitted power in a VSAT network.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Helene Tayong whose telephone number is 571-270-1675. The examiner can normally be reached on Monday-Friday 7:30 am to 5:00 pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Liu Shuwang can be reached on 571-272-3036. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Helene Tayong

2/20/07

SHUWANG LIU
SUPERVISORY PATENT EXAMINER